```
=> d his

     (FILE 'HOME' ENTERED AT 08:05:13 ON 15 AUG 2003)

     FILE 'MEDLINE, BIOSIS, CAPLUS' ENTERED AT 08:06:45 ON 15 AUG 2003
L1         21701 S PURIF? (3A) DNA
L2            25 S L1 (9A) (RNA OR RNASE)(3A)FREE
L3            18 DUP REM L2 (7 DUPLICATES REMOVED)
L4           781 S CESIUM (9A) DNA
L5             2 S L4 (9A) PURITY
L6            52 S CSCL (9A) PURITY
L7            28 S L6 AND (DNA OR NUCLEIC OR PLASMID)
L8            18 DUP REM L7 (10 DUPLICATES REMOVED)

     FILE 'STNGUIDE' ENTERED AT 08:11:06 ON 15 AUG 2003

     FILE 'MEDLINE, CAPLUS' ENTERED AT 08:20:13 ON 15 AUG 2003
L9             0 S RNASE (9A) CESIUM (9A) PLASMID
L10           10 S RNASE (9A) CESIUM
L11           18 S ENDOTOXIN AND (CESIUM OR CSCL)
L12           17 DUP REM L11 (1 DUPLICATE REMOVED)

     FILE 'STNGUIDE' ENTERED AT 08:27:46 ON 15 AUG 2003

     FILE 'MEDLINE' ENTERED AT 08:37:59 ON 15 AUG 2003
L13           93 S PUR? (9A) (CESIUM OR CSCL) (9A) (DNA OR PLASMID OR NUCLEIC)
L14           93 DUP REM L13 (0 DUPLICATES REMOVED)
L15            0 S (MANGANESE (W) CHLORIDE OR MNCL#) AND (CESIUM OR CSCL) (5A) (
L16            0 S (MANGANESE (W) CHLORIDE OR MNCL#) AND (CESIUM OR CSCL#) (5A)
L17          590 S TRANSFECTION AND (SPERMINE OR SPERMIDINE OR NETROPSIN OR DIST
L18            3 S L17 AND CESIUM
L19            0 S L17 AND CSCL#
L20          143 S L17 AND PY<1995
L21          447 S L17 NOT L20

     FILE 'STNGUIDE' ENTERED AT 08:58:54 ON 15 AUG 2003

     FILE 'MEDLINE' ENTERED AT 08:59:29 ON 15 AUG 2003

     FILE 'STNGUIDE' ENTERED AT 08:59:29 ON 15 AUG 2003

     FILE 'MEDLINE' ENTERED AT 09:02:43 ON 15 AUG 2003

     FILE 'STNGUIDE' ENTERED AT 09:02:43 ON 15 AUG 2003

     FILE 'MEDLINE' ENTERED AT 09:06:25 ON 15 AUG 2003

     FILE 'STNGUIDE' ENTERED AT 09:06:25 ON 15 AUG 2003

     FILE 'MEDLINE' ENTERED AT 09:07:54 ON 15 AUG 2003

     FILE 'STNGUIDE' ENTERED AT 09:07:54 ON 15 AUG 2003

     FILE 'MEDLINE' ENTERED AT 09:08:19 ON 15 AUG 2003

     FILE 'STNGUIDE' ENTERED AT 09:09:10 ON 15 AUG 2003

     FILE 'MEDLINE' ENTERED AT 09:10:54 ON 15 AUG 2003

     FILE 'STNGUIDE' ENTERED AT 09:10:54 ON 15 AUG 2003

=> file medline
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
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                                                        ENTRY     SESSION
FULL ESTIMATED COST                                      0.12       92.49

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                        ENTRY     SESSION
CA SUBSCRIBER PRICE                                      0.00       -2.60

FILE 'MEDLINE' ENTERED AT 09:12:01 ON 15 AUG 2003

 FILE LAST UPDATED: 14 AUG 2003 (20030814/UP). FILE COVERS 1958 TO DATE.

 On April 13, 2003, MEDLINE was reloaded. See HELP RLOAD for details.

 MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the
 MeSH 2003 vocabulary. See http://www.nlm.nih.gov/mesh/changes2003.html
 for a description on changes.

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> d his

     (FILE 'HOME' ENTERED AT 08:05:13 ON 15 AUG 2003)

     FILE 'MEDLINE, BIOSIS, CAPLUS' ENTERED AT 08:06:45 ON 15 AUG 2003
L1         21701 S PURIF? (3A) DNA
L2            25 S L1 (9A) (RNA OR RNASE)(3A)FREE
L3            18 DUP REM L2 (7 DUPLICATES REMOVED)
L4           781 S CESIUM (9A) DNA
L5             2 S L4 (9A) PURITY
L6            52 S CSCL (9A) PURITY
L7            28 S L6 AND (DNA OR NUCLEIC OR PLASMID)
L8            18 DUP REM L7 (10 DUPLICATES REMOVED)

     FILE 'STNGUIDE' ENTERED AT 08:11:06 ON 15 AUG 2003

     FILE 'MEDLINE, CAPLUS' ENTERED AT 08:20:13 ON 15 AUG 2003
L9             0 S RNASE (9A) CESIUM (9A) PLASMID
L10           10 S RNASE (9A) CESIUM
L11           18 S ENDOTOXIN AND (CESIUM OR CSCL)
L12           17 DUP REM L11 (1 DUPLICATE REMOVED)

     FILE 'STNGUIDE' ENTERED AT 08:27:46 ON 15 AUG 2003

     FILE 'MEDLINE' ENTERED AT 08:37:59 ON 15 AUG 2003
L13           93 S PUR? (9A) (CESIUM OR CSCL) (9A) (DNA OR PLASMID OR NUCLEIC)
L14           93 DUP REM L13 (0 DUPLICATES REMOVED)
L15            0 S (MANGANESE (W) CHLORIDE OR MNCL#) AND (CESIUM OR CSCL) (5A) (
L16            0 S (MANGANESE (W) CHLORIDE OR MNCL#) AND (CESIUM OR CSCL#) (5A)
L17          590 S TRANSFECTION AND (SPERMINE OR SPERMIDINE OR NETROPSIN OR DIST
L18            3 S L17 AND CESIUM
L19            0 S L17 AND CSCL#
L20          143 S L17 AND PY<1995
L21          447 S L17 NOT L20

     FILE 'STNGUIDE' ENTERED AT 08:58:54 ON 15 AUG 2003

     FILE 'MEDLINE' ENTERED AT 08:59:29 ON 15 AUG 2003

     FILE 'STNGUIDE' ENTERED AT 08:59:29 ON 15 AUG 2003

     FILE 'MEDLINE' ENTERED AT 09:02:43 ON 15 AUG 2003
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FILE 'MEDLINE' ENTERED AT 09:10:54 ON 15 AUG 2003

FILE 'STNGUIDE' ENTERED AT 09:10:54 ON 15 AUG 2003

FILE 'MEDLINE' ENTERED AT 09:12:01 ON 15 AUG 2003

```
=> s 17 and influenza
        375986 17
         34822 INFLUENZA
L22        667 17 AND INFLUENZA

=> s l17 and influenza
         34822 INFLUENZA
L23         14 L17 AND INFLUENZA

=> d 1-14 ti
```

L23 ANSWER 1 OF 14 MEDLINE on STN
TI Efficient gene delivery to primary neuron cultures using a synthetic peptide vector system.

L23 ANSWER 2 OF 14 MEDLINE on STN
TI A powerful cooperative interaction between a fusogenic peptide and lipofectamine for the enhancement of receptor-targeted, non-viral gene delivery via integrin receptors.

L23 ANSWER 3 OF 14 MEDLINE on STN
TI The Leishmania ATP-binding cassette protein PGPA is an intracellular metal-thiol transporter ATPase.

L23 ANSWER 4 OF 14 MEDLINE on STN
TI Efficient gene delivery to vascular smooth muscle cells using a nontoxic, synthetic peptide vector system targeted to membrane integrins: a first step toward the gene therapy of chronic rejection.

L23 ANSWER 5 OF 14 MEDLINE on STN
TI Chloroquine and amphipathic peptide helices show synergistic **transfection** in vitro.

L23 ANSWER 6 OF 14 MEDLINE on STN
TI Membrane permeabilization and efficient gene transfer by a peptide containing several histidines.

L23 ANSWER 7 OF 14 MEDLINE on STN
TI Efficient gene transfer into mammalian cells with cholesteryl-**spermidine**.

L23 ANSWER 8 OF 14 MEDLINE on STN
TI Delivery of DNA into mammalian cells by receptor-mediated endocytosis and

gene therapy.

L23 ANSWER 9 OF 14 MEDLINE on STN
TI Ribozyme mediated destruction of **influenza** A virus in vitro and in vivo.

L23 ANSWER 10 OF 14 MEDLINE on STN
TI The influence of endosome-disruptive peptides on gene transfer using synthetic virus-like gene transfer systems.

L23 ANSWER 11 OF 14 MEDLINE on STN
TI Specific gene transfer mediated by lactosylated poly-L-lysine into hepatoma cells.

L23 ANSWER 12 OF 14 MEDLINE on STN
TI Gene transfer into hepatocytes using asialoglycoprotein receptor mediated endocytosis of DNA complexed with an artificial tetra-antennary galactose ligand.

L23 ANSWER 13 OF 14 MEDLINE on STN
TI **Influenza** virus hemagglutinin HA-2 N-terminal fusogenic peptides augment gene transfer by transferrin-**polylysine**-DNA complexes: toward a synthetic virus-like gene-transfer vehicle.

L23 ANSWER 14 OF 14 MEDLINE on STN
TI Transfer of condensed viral DNA into eukaryotic cells using proteoliposomes.

=> d 7 bib ab

L23 ANSWER 7 OF 14 MEDLINE on STN
AN 96220162 MEDLINE
DN 96220162 PubMed ID: 8660349
TI Efficient gene transfer into mammalian cells with cholesteryl-**spermidine**.
AU Moradpour D; Schauer J I; Zurawski V R Jr; Wands J R; Boutin R H
CS Molecular Hepatology Laboratory, Massachusetts General Hospital Cancer Center, Harvard Medical School, Charlestown, USA.
NC AA-02666 (NIAAA)
AA-08169 (NIAAA)
CA-35711 (NCI)
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1996 Apr 5) 221 (1) 82-8.
Journal code: 0372516. ISSN: 0006-291X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199607
ED Entered STN: 19960808
Last Updated on STN: 19960808
Entered Medline: 19960729
AB The naturally occurring polyamine **spermidine** was covalently conjugated with cholesterol, resulting in a novel cationic compound that mediates efficient gene transfer into mammalian cells. Using reporter plasmids coding for firefly luciferase and beta-galactosidase, a simple procedure was developed allowing highly reproducible and efficient transient and stable **transfection** of HuH-7 cells. **Transfection** efficiency could be further increased when a fusogenic peptide derived from the **influenza** virus hemagglutinin HA2 aminoterminal sequence was included in the cholesteryl-**spermidine**-DNA complex. Cholesteryl-**spermidine**

(Transfectall) represents a novel cationic compound for efficient **transfection** of cultured cells in vitro and has the potential to be used for gene transfer in vivo.

```
=> s l17 and vaccine#
        108258 VACCINE#
L24          4 L17 AND VACCINE#

=> d 1-4 ti

L24  ANSWER 1 OF 4      MEDLINE on STN
TI   A study of systems for delivering antigens and plasmid DNA for intranasal
     immunization against tick-borne encephalitis virus.

L24  ANSWER 2 OF 4      MEDLINE on STN
TI   Poly-L-lysine-based molecular conjugate vectors: a high efficiency gene
     transfer system for human progenitor and leukemia cells.

L24  ANSWER 3 OF 4      MEDLINE on STN
TI   Large-scale feasibility of gene transduction into human CD34+ cell-derived
     dendritic cells by adenoviral/polycation complex.

L24  ANSWER 4 OF 4      MEDLINE on STN
TI   Adenovirus-enhanced receptor-mediated transferrinfection for the
     generation of tumor vaccines.


=> s influenza (4a) DNA (4a) vaccine#
         34822 INFLUENZA
        704198 DNA
        108258 VACCINE#
L25         39 INFLUENZA (4A) DNA (4A) VACCINE#

=> d 1-39 ti
```

L26 ANSWER 19 OF 21 MEDLINE on STN
AN 97414204 MEDLINE
DN 97414204 PubMed ID: 9269061
TI Immunogenicity and efficacy of baculovirus-expressed and **DNA** -based equine **influenza** virus hemagglutinin **vaccines** in mice.
AU Olsen C W; McGregor M W; Dybdahl-Sissoko N; Schram B R; Nelson K M; Lunn D P; Macklin M D; Swain W F; Hinshaw V S
CS Department of Pathobiological Science, School of Veterinary Medicine, University of Wisconsin-Madison 53706, USA.
SO VACCINE, (1997 Jul) 15 (10) 1149-56.
Journal code: 8406899. ISSN: 0264-410X.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS GENBANK-U58195
EM 199710
ED Entered STN: 19971105
Last Updated on STN: 19971105
Entered Medline: 19971020
AB Two fundamentally different approaches to vaccination of BALB/c mice with the hemagglutinin (HA) of A/Equine/Kentucky/1/81 (H3N8) (Eq/KY) were evaluated, that is, administration of HA protein vs administration of HA-encoding DNA. Each vaccine was tested for its immunogenicity and ability to provide protection from homologous virus challenge. HA protein was synthesized in vitro by infection of Sf21 insect cells with a recombinant baculovirus. Intranasal administration of this vaccine induced virus-specific antibodies, as measured by enzyme-linked immunosorbent assay (ELISA), but did not induce virus neutralizing (VN) antibodies. This route of administration provided partial protection from virus challenge, but interestingly, this protection was completely abrogated, rather than enhanced, by co-administration of 10 micrograms of cholera holotoxin. As a second approach, mice were directly vaccinated in vivo by Accell gene gun delivery of **plasmid** DNA encoding the Eq/KY HA gene. This approach induced VN antibodies as well as virus-specific ELISA antibodies. When two doses of DNA vaccine were administered 3 weeks apart, mice were not protected from challenge, although they cleared the infection more rapidly than control mice. However, when the second DNA vaccination was delayed until 9 weeks after the first, 9 out of 10 vaccinated mice were completely protected. These results indicate that the time between initial and booster DNA vaccinations may be an important variable in determining DNA vaccination efficacy.

L26 ANSWER 20 OF 21 MEDLINE on STN
AN 96071507 MEDLINE
DN 96071507 PubMed ID: 7585127
TI Preclinical efficacy of a prototype DNA vaccine: enhanced protection against antigenic drift in influenza virus.
CM Comment in: Nat Med. 1995 Jun;1(6):521-2
AU Donnelly J J; Friedman A; Martinez D; Montgomery D L; Shiver J W; Motzel S L; Ulmer J B; Liu M A
CS Department of Virus and Cell Biology, Merck Research Laboratories, West Point, Pennsylvania 19486, USA.
SO NATURE MEDICINE, (1995 Jun) 1 (6) 583-7.
Journal code: 9502015. ISSN: 1078-8956.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199512

ANSWER 340 OF 447 MEDLINE on STN
AN 1998010146 MEDLINE
DN 98010146 PubMed ID: 9349433
TI **Protamine** sulfate enhances lipid-mediated gene transfer.
AU Sorgi F L; Bhattacharya S; Huang L
CS Department of Pharmacology, University of Pittsburgh School of Medicine, PA 15261, USA.
NC CA 59327 (NCI)
CA 64654 (NCI)
CA 71731 (NCI)
+
SO GENE THERAPY, (1997 Sep) 4 (9) 961-8.
Journal code: 9421525. ISSN: 0969-7128.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199711
ED Entered STN: 19971224
Last Updated on STN: 19971224
Entered Medline: 19971120
AB A polycationic peptide, **protamine** sulfate, USP, has been shown to be able to condense plasmid DNA efficiently for delivery into several different types of cells in vitro by several different types of cationic liposomes. The monovalent cationic liposomal formulations (DC-Chol and lipofectin) exhibited increased **transfection** activities comparable to that seen with the multivalent cationic liposome formulation, lipofectamine. This suggests that lipofectamine's superior in vitro activity arises from its ability to condense DNA efficiently and that **protamine**'s primary role is that of a condensation agent, although it also possesses several amino acid sequences resembling that of a nuclear localization signal. While the use of polycations to condense DNA has been previously reported, the of **protamine** sulfate, USP as a condensation agent was found to be superior to poly-L-lysine as well as to various other types of **protamine**. These differences among various salt forms of **protamine** appear to be attributable to structural differences between the **protamines** and not due to differences in the net charge of the molecule. The appearance of lysine residues within the **protamine** molecule correlate with a reduction in binding affinity to plasmid DNA as well as an observed loss in **transfection** enhancing activity. This finding sheds light on the structural requirements of condensation agents for use in gene transfer protocols. Furthermore, **protamine** sulfate, USP is an FDA-approved compound with a documented safety profile and could be readily used as an adjuvant to a human gene therapy protocol.

RB 155 & 662

ED Entered STN: 19960124
Last Updated on STN: 19960124
Entered Medline: 19951226

AB Vaccination with **plasmid** DNA expression vectors encoding foreign proteins elicits antibodies and cell-mediated immunity and protects against disease in animal models. We report a comparison of DNA vaccines, using contemporary human strains of virus, and clinically licensed (inactivated virus or subvirion) vaccines in preclinical animal models, to better predict their efficacy in humans. **Influenza DNA vaccines** elicited antibodies in both non-human primates and ferrets and protected ferrets against challenge with an antigenically distinct epidemic human influenza virus more effectively than the contemporary clinically licensed vaccine. These studies demonstrate that DNA vaccines may be more effective, particularly against different strains of virus, than inactivated virus or subvirion vaccines.

L26 ANSWER 21 OF 21 MEDLINE on STN
AN 95185103 MEDLINE
DN 95185103 PubMed ID: 7879412
TI Protection of ferrets against **influenza** challenge with a **DNA vaccine** to the haemagglutinin.
AU Webster R G; Fynan E F; Santoro J C; Robinson H
CS Department of Virology and Molecular Biology, St Jude Children's Research Hospital, Memphis TN 38101-0318.
NC AI-08831 (NIAID)
AI-34946 (NIAID)
CA-21765 (NCI)
SO VACCINE, (1994 Dec) 12 (16) 1495-8.
Journal code: 8406899. ISSN: 0264-410X.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199504
ED Entered STN: 19950419
Last Updated on STN: 19950419
Entered Medline: 19950406

AB Immunization of ferrets with a **plasmid** DNA expressing influenza virus haemagglutinin (pCMV/H1 DNA) provided complete protection from challenge with the homologous A/PR/8/34 (H1N1) influenza virus. Delivery of DNA-coated gold beads by gene gun to the epidermis was much more efficient than intramuscular delivery of DNA in aqueous solution. The antibody response induced by DNA delivered by gene gun was more cross-reactive than DNA delivered in aqueous solution or after natural infection. This novel approach to vaccination against influenza may afford broader protection against antigenic drift than that provided by natural infection.

L21 ANSWER 399 OF 447 MEDLINE on STN
AN 96220162 MEDLINE
DN 96220162 PubMed ID: 8660349
TI Efficient gene transfer into mammalian cells with cholesteryl-**spermidine**.
AU Moradpour D; Schauer J I; Zurawski V R Jr; Wands J R; Boutin R H
CS Molecular Hepatology Laboratory, Massachusetts General Hospital Cancer Center, Harvard Medical School, Charlestown, USA.
NC AA-02666 (NIAAA)
AA-08169 (NIAAA)
CA-35711 (NCI)
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1996 Apr 5) 221 (1) 82-8.
Journal code: 0372516. ISSN: 0006-291X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
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EM 199607
ED Entered STN: 19960808
Last Updated on STN: 19960808
Entered Medline: 19960729
AB The naturally occurring polyamine **spermidine** was covalently conjugated with cholesterol, resulting in a novel cationic compound that mediates efficient gene transfer into mammalian cells. Using reporter plasmids coding for firefly luciferase and beta-galactosidase, a simple procedure was developed allowing highly reproducible and efficient transient and stable **transfection** of HuH-7 cells. **Transfection** efficiency could be further increased when a fusogenic peptide derived from the influenza virus hemagglutinin HA2 aminoterminal sequence was included in the cholesteryl-**spermidine** -DNA complex. Cholesteryl-**spermidine** (Transfectall) represents a novel cationic compound for efficient **transfection** of cultured cells in vitro and has the potential to be used for gene transfer in vivo.